WHAT IS CLAIMED IS:

1. An organic electroluminescent device comprising:

   a) a substrate formed of an electrically insulating material;

   b) a hole-injecting anode layer;

   c) an organic electroluminescent layer;

   d) an electron-injecting cathode formed of a rare-earth metal, or a rare-earth metal alloy coevaporated with a conductive metal.

2. An electroluminescent device as claimed in claim 1 wherein the cathode is transparent.

3. An electroluminescent device as claimed in claim 1 wherein the cathode is formed of a rare-earth metal or by co-evaporation of the rare-earth metal and a conductive metal.

4. An electroluminescent device as claimed in claim 1 wherein when the substrate is optically transparent.

5. An electroluminescent device as claimed in claim 4 wherein the substrate is formed from glass or plastics materials.

6. An electroluminescent device as claimed in claim 1 wherein when the substrate is opaque.

7. An electroluminescent device as claimed in claim 6 wherein the substrate is formed from semiconducting materials or ceramics.

8. An electroluminescent device as claimed in claim 1 wherein the anode is optically transmissive and selected from the group consisting of metal oxides, including indium-tin oxide, aluminum- or indium- doped zinc oxide, tin oxide, magnesium-indium oxide, nickel-tungsten oxide, and cadmium-tin oxide.

9. An electroluminescent device as claimed in claim 1 wherein the anode is opaque and selected from the group consisting of a metal and a metallic compound having a work function greater than 4.1 eV, including gold, iridium, molybdenum, palladium, and platinum

10. An electroluminescent device as claimed in claim 1 wherein said the organic electroluminescent layer is selected from the group consisting of poly(9,9-dioctylfluorene) (PFO), PFO copolymers, and 9,10-di-(2-naphthyl) anthracene (DNA), or tris-(8-hydroxyquinoline) aluminum (Alq).

11. An electroluminescent device as claimed in claim 1 wherein said the rare-earth metal is selected from the group consisting of lanthanum, cerium, praseodymium, neodymium, promethium, samarium, europium, gadolinium, terbium, dysprosium, holmium, erbium, thulium, and ytterbium.

12. An electroluminescent device as claimed in claim 1 wherein said conductive metal is selected from the group consisting of gold, silver, nickel, palladium, and platinum.

13. An organic electroluminescent device comprising a substrate formed of an

electrically insulating material, a hole-injecting anode layer, an organic electroluminescent layer, and a cathode, wherein said cathode comprises a trilayer structure, comprising:

a) a fluoride layer contacting the electroluminescent layer;

b) a rare-earth metal layer contacting the fluoride layer;

c) a conductive layer contacting the rare-earth metal layer.

14. An electroluminescent device as claimed in claim 13 wherein said fluoride is an alkali fluoride, or an alkaline earth fluoride.

15. An electroluminescent device as claimed in claim 13 wherein said fluoride layer is selected from the group consisting of lithium fluoride, sodium fluoride, potassium fluoride, and cesium fluoride.

16. An electroluminescent device as claimed in claim 13 wherein said fluoride layer is selected from the group consisting of magnesium fluoride, calcium fluoride, strontium fluoride, and barium fluoride.

17. An electroluminescent device as claimed in claim 13 wherein said rare-earth metal is selected from the group consisting of lanthanum, cerium, praseodymium, neodymium, promethium, samarium, europium, gadolinium, terbium, dysprosium, holmium, erbium, thulium, and ytterbium.

18. An electroluminescent device as claimed in claim 13 wherein said conductive material is selected from the group consisting of elemental metals, metals alloys, and other conductive materials.

19. An electroluminescent device as claimed in claim 13 wherein said substrate is a glass substrate or a plastic foil.

20. An electroluminescent device as claimed in claim 13 wherein the anode is optically transmissive and selected from the group consisting of metal oxides, including indium-tin oxide, aluminum- or indium- doped zinc oxide, tin oxide, magnesium-indium oxide, nickel-tungsten oxide, and cadmium-tin oxide.

21. An electroluminescent device as claimed in claim 13 wherein said the organic electroluminescent layer is selected from the group consisting of poly(9,9-dioctylfluorene) (PFO), PFO copolymers, and 9,10-di-(2-naphthyl) anthracene (DNA), or tris-(8-hydroxyquinoline) aluminum (Alq).